

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Phillip Dan Cook, et al. Confirmation No.: Not Yet Assigned

**Application No.: 10/699,240** Group Art Unit: Not Yet Assigned

Filing Date: October 31, 2003 **Examiner: Not Yet Assigned** 

PROCESSES FOR THE SYNTHESIS OF 2'-O-SUBSTITUTED

PYRIMIDINES AND OLIGOMERIC COMPOUNDS THEREFROM

DATE OF DEPOSIT:

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TYPED NAME: Elizabeth A. McLoud

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

#### INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 CFR § 1.56 and in accordance with 37 CFR §§ 1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 CFR § 1.56(b).

 $\boxtimes$ In accordance with § 1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified application, within three months of the date of entry into the national stage of

the above identified	application as set forth in § 1.491, before the mailing date
of a first Office Act	ion on the merits of the above-identified application, or
before the mailing d	ate of a first Office Action after the filing of request for
continued examination	on under § 1.114, no additional fee is required.
In accordance with §	1.129(a), this Information Disclosure Statement is being
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☐ Certif	ication in Accordance with § 1.97(e) is attached; or
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1.97(e); and the subn	nission fee of <u>\$180.00</u> as set forth in § 1.17(p).
Copies of each of th	ne references listed on the attached Form PTO-1449 are
enclosed herewith	

DOCKET NO.: ISIS-5320 -3- PATENT

Copies of references listed on the attached Form PTO-1449 are enclosed herewith

Copies of references listed on the attached Form PTO 1449 are not required to

Copies of references listed on the attached Form PTO 1449 are not required to be submitted pursuant to the June 30, 2003 recent revisions to 37 CFR § 1.98(a)(2)(i).

### **EXCEPT THAT:**

- In view of the voluminous nature of references [list as appropriate], and the likelihood that these references are available to the Examiner, copies are not enclosed herewith.
- In accordance with § 1.98(d), copies of the following references listed on the attached Form PTO-1449 are not enclosed herewith because they were previously cited by or submitted to the U.S. Patent and Trademark Office in patent application(s) for which a claim for priority under 35 U.S.C.§ 120 have been made in the instant application:
  - Copies of references 1-65, 82-90 and 95-115 listed on the attached Form PTO-1449 were previously cited by or submitted to the Patent and Trademark Office in prior Application No. 08/398,901, filed March 6, 1995 now U.S. Patent Number 6,166,197; copies of references 66-74 listed on the attached Form PTO-1449 were previously cited by or submitted to the Patent and Trademark Office in prior Application No. 08/475,467, filed June 7, 1995 now U.S. Patent Number 5,760,202; copies of references 75-77, 91-92 and 116 listed on the attached Form PTO-1449 were previously cited by or

submitted to the Patent and Trademark Office in prior Application No. 08/894,899, filed January 7, 1998 now U.S. Patent Number 6,222,025; copies of references 78-81 and 93-94 listed on the attached Form PTO-1449 were previously cited by or submitted to the Patent and Trademark Office in prior Application No. 09/747,009, filed December 22, 2000 now U.S. Publication Number 2003-0050454 A1.

Registration No. 47,042

Please charge any deficiency or credit any overpayment to Deposit Account No. 23-3050. This form is submitted in duplicate.

The relevance of those listed references which are not in the English language is as follows:

Reference numbers 110-115 were previously filed without Japanese translations.

Date: Leaveler 18, 2003

Felicity E. Groth

WOODCOCK WASHBURN LLP One Liberty Place - 46th Floor Philadelphia, PA 19103 Telephone: (215) 568-3100 Facsimile: (215) 568-3439

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TRADES						
Form I	РТО	-1449 Modified	Docket No ISIS-5320		Application No. 10/699,240	
C	List of Patent and Publications Cited by Applicant (Use several sheets if necessary)			Applicant Phillip Dan Cook, et al.		
	U.S. Department of Commerce Patent and Trademark Office			e 1, 2003	Group Not Yet Assigned	
			Confirmat Not Yet A			
<b>O</b> 7.	гнен	R DOCUMENTS (Includ	ling Author	, Title, Date, l	Pertinent Pages, Etc.)	
	1	Alul, R. et al., "Oxalyl-C Oligonucleotide Derivati		* *	Synthesis of Sensitive rch <b>1991</b> , 19(7), 1527-1532.	
	2	Arya et al., "Inhibition of Synthesis of Murine Leukemia Virus in Cultured Cells by Polyribonucleotides and Their 2'-O-Alkyl Derivatives", <i>Molecular Pharm.</i> , <b>1975</b> , <i>12</i> , 234-241				
*	3	Ausubel, F.M. et al., eds., "Current Protocols in Molecular Biology", John Wiley & Sons, New York, 1993.				
	4	Beaucage, S. and Iyer, "Advances in the Synthesis of Oligonucleotides by the Phosphoramidite Approach", <i>Tetrahedron</i> <b>1992</b> , <i>48(12)</i> , 2223-2311.				
	5	Bielinska, A. et al., "Reg Phosphorothioate Oligon		•		
	6	Blackburn, G. and Gait, IRL PRess, New York, 1		cids in Chemist	try and Biology", Chapter 3, p. 98,	
	Bradford, M., "A Rapid and Sensitive Method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding", <i>Analytical Biochemistry</i> <b>1976</b> , <i>72</i> , 248-254.					
	Chavis et al., "Synthesis of 2',3'-Differentiated Ribonucleosides via Glycosylation Reactions with 2-O-Me or 2-O-TBDMS Ribofuranose Derivatives. 1. Pyrimidine Series", J. Org. Chem., 1982, 47, 202-206					
	Cotton et al., "2-O-methyl, 2'-O-ethyl oligoribonucleotides and phosphorothioate oligodeoxyribonucleotides as inhibitors of the <i>in vitro</i> U7 snRNP-dependent mRNA processing event", <i>Nucl. Acids Res.</i> , <b>1991</b> , <i>19(10)</i> , 2629-2635					
	Coussens, L. et al., "Multiple, Distinct Forms of Bovine and Human Protein Kinase C Suggest Diversity in Cellular Signaling Pathways", Science 1986, 233, 859-866.					
EXAMINER				DATE CONS	SIDERED	

<sup>\*</sup> A copy of this reference will not be forwarded to the U.S. Patent and Trademark Office since it is believed to be too voluminous and easily obtainable by the Examiner.





Form PTO-	1449 Modified	Docket No. ISIS-5320	Application No. 10/699,240		
Cited by	List of Patent and Publications Cited by Applicant (Use several sheets if necessary)				
	U.S. Department of Commerce Patent and Trademark Office		Group Not Yet Assigned		
		Confirmation No. Not Yet Assigned			
OTHER	DOCUMENTS (Includ	ing Author, Title, Date,	Pertinent Pages, Etc.)		
11	Dean, N. et al., "Inhibition of Protein Kinase C-α Expression in Human A549 Cells by Antisense Oligonucleotides Inhibits Induction of Intercellular Adhesion Molcelule 1 (ICAM-1) mRNA by Phorbol Esters", <i>The J. of Biol. Chem.</i> <b>1994</b> , 269(23), 16416-16424.				
12	Divakar et al., "Reaction Between 2,2'-Anhydro-1-β-D-arabinofuranosyluracil and Thiolate Ions", J. Chem. Soc. Perkin Trans., 1982, 1625-1628				
13	Edmonds et al., "Structural Characterization of Four Ribose-methylated Nucleosides from the Transfer RNA of Extremely Thermophilic Archaebacteria", J. Chem. Soc., Chem. Commun., 1987, 909-910				
14	Englisch, U. and Gauss, "Che Chem. Int. Ed. Engl. 1991, 36		otides as Probes and Inhibitors", Angew.		
15			2'-deoxy-2'-methylthio-pyrimidine & - Heterocyclic Chem., <b>1993</b> , 30, 1277-1287		
16	Acids Research 1987, 15(16),	6455-6467.	erivatizable Oligonucleotides", Nucleic		
17	Methylarabinonucleoside," Te	el Oligodeoxynucleotide Analo etra. Letts., <b>1994,</b> 35(37), 6941	-6944		
18	Graham, F.G. and Van der Et 5 DNA", Virology 1973, 52,	o, "A New Technique for the A 156-467	Assay of Infectivity of Human Adenovirus		
19	Greene, T. and Wuts, "P. New York, 2nd edition,		nic Synthesis", John Wiley & Sons,		
20	Guinosso et al., "Synthesis and Biophysical and Biological Evaluation of 2'-Modified Antisense Oligonucleotides", <i>Nucleotides &amp; Nucleotides</i> , <b>1991</b> , <i>10(1-3)</i> , 259-262				
EXAMINER		DATE CON	NSIDERED		





Form PTO	-1449 Modified	Docket No. ISIS-5320		Application No. 10/699,240		
Cited b	List of Patent and Publications Cited by Applicant (Use several sheets if necessary)			Applicant Phillip Dan Cook, et al.		
	U.S. Department of Commerce Patent and Trademark Office			Group Not Yet Assigned		
		Confirmation Not Yet Assig				
ОТНЕ	R DOCUMENTS (Includ	ling Author, T	itle, Date, I	Pertinent Pages, Etc.)		
21	Radioactive Label Attac	hment and The	ir Incorpora	ted Nucleosides Suitable for Non- tion Into Synthetic ch 1987, 15(12), 4857-4875.		
22	Inoue et al., "Synthesis a Res., 1985, 165-168	and properties of novel nucleic acid probes", Nucl. Acids				
23	, ,	and hybridization studies on two complementary nona(2'-O-", Nucl. Acids Res., 1987, 15(15), 6131-6148				
24	Iribarren et al., "2'-O-All Acad. Sci. USA, 1990, 8	lkyl oligoribonucleotides as antisense probes", <i>Proc. Natl.</i> 87, 7747-7751				
25	, , , , , , , , , , , , , , , , , , , ,	et-specific arrest of mRNA translation by antisense 2'-O-les", Nucl. Acids Res., 1994, 22(22), 4591-4598				
26	Oligonucleotides as Nuc	ormly Modified 2'-Deoxy-2'-Fluoro Phosphorothioate aclease-Resistant Antisense Compounds w/High Affinity & argets", <i>Jour. Med. Chem.</i> , <b>1993</b> , <i>Vol. 36</i> , pgs. 831-841.				
27	Keller et al., "A General Ribonucleosides", Helv.		-			
28	Kielanowska et al., "Prej Nucl. Acids Res., 1976,		operties of p	ooly 2'-O-ethylcytidylic acid",		
29	Kois, P. et al., "Synthesis and Some Properties of Modified Oligonucleotides. Oligonucleotides Containing 2'-Deoxy-2'-Fluoro-β-D-Arabinofuranosyl Pyrin Nucleosides," <i>Nucleosides &amp; Nucleotides</i> , <b>1993</b> , <i>12(10)</i> , 1093-1109					
30	Kroschwitz, J., ed., "Corpp. 858-859, John Wiley			mer Science and Engineering",		
EXAMINER		D.	ATE CONS	SIDERED		





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Form PTO-1449 Modified	Docket No. ISIS-5320	Application No. 10/699,240			
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)	Applicant Phillip Dan Cook, et al.				
U.S. Department of Commerce Patent and Trademark Office	Filing Date October 31, 2003	Group Not Yet Assigned			
	Confirmation No. Not Yet Assigned				
OTHER DOCUMENTS (Includ	ing Author, Title,	Date, Pertinent Pages, Etc.)			
		probes containing 2'-deoxy-2'-nase H," Biomed. Biochim. Acta, 1990,			
Influence of O'-Alkylation Nucleolytic Enzymes, an	Kusmierek et al., "Alkylation of Cytidine-5'-Phosphate: Mechanisms of Alkylation, Influence of O'-Alkylation of Susceptibility of Pyrimidine Nucleotides to Some Nucleolytic Enzymes, and Synthesis of 2'-O-Alkyl Polynucleotides", Acta Biochimica Polonica, 1973, 20(4), 365-381				
1 1	Kusmierek et al., "Preparation and stability of the helical form of poly 2'-O-ethyluridylic acid", <i>Biochem. Biophy. Res. Commun.</i> , <b>1973</b> , <i>53(2)</i> , 406-412				
Kusmierek et al., "Prepar Nucleosides", Biochem.,		erivatives of Cytosine and Uracil			
1 1 -	•	made of 2'-O-alkyl RNA: their try," FEBS Letts., June 1993, 325(1,2),			
	'310-312 in "Antise	cleotides: conjugation chemistry and ense Research and Applications," Crooke 1993			
37 March, J., "Advanced org Wiley & Sons, New York,	ganic chemistry-read	ctions, mechanisms, and structure," John			
Alkylated Oligoribonucle	Martin, "A New Access to 2'-O-Alkylated Ribonucleosides and Properties of 2'-O-Alkylated Oligoribonucleotides", Helv. Chim. Acta, 1995, 78, 486-504				
by expression of cloned r	-	n of a gluocoricoid receptor deficiency dl, 1986, 46, 389-399			
Mikke et al., "Oligo(dG) <sub>1</sub> poly® type primer templa		It in non-homogeneity of oligo(dG) <sub>12-18</sub> c., <b>1977</b> , <i>4</i> ( <i>4</i> ), 1111-1122			
EXAMINER	DATE	CONSIDERED			





Form 1	PTO	-1449 Modified	Docket No ISIS-5320		Application No. 10/699,240	
C	List of Patent and Publications Cited by Applicant (Use several sheets if necessary)			Applicant Phillip Dan Cook, et al.		
	U.S. Department of Commerce Patent and Trademark Office		Filing Dat October 3		Group Not Yet Assigned	
				tion No. ssigned		
0	ГНЕ	R DOCUMENTS (Includ	ling Author	r, Title, Date, l	Pertinent Pages, Etc.)	
	Mikke et al., "Poly 2'-O-reverse transcriptase", N				or and poor template for AMV 1603-1611	
42 Monia, et al., "Evaluation of 2'-mo as antisense inhibitors of gene expr 14514-14522						
	43 Morvan, et al., "Compara Potential Antisense Ager 44 Ohtsuka, E. et al., "Studi			rative Evaluation of Seven Oligonucleotide Analogues as nts," <i>Jour.Med. Chem.</i> , <b>1993</b> , <i>Vol. 36</i> , pgs. 280-287 ies on Transfer Ribonucleic Acids and Related Compounds. Fragments containing Modified Nucleosides," <i>Chem.</i> 2), 513-520		
	45	Ransford et al., "2'-O-Eth Nucleosides, Nucleotides	chyl Pyrimidine Nucleosides (1)", <i>J. Carbohydrates</i> , is ", <b>1974</b> , <i>I</i> (3), 275-278 id Related Compounds. 1. Methylation and Transformation of 4-1-β-D-Ribofuranoside into 2'-O-Methyl Nucleoside Components r Analogs, and Derivatives", <i>Biochem.</i> , <b>1971</b> , <i>10</i> (19), 3591-3597			
	46	Methoxy-2-pyrimidinone 1				
47 Robins et al., "Nucleic Acid Related Compounds. 1. Methylation and Transformation Methoxy-2-pyrimidinone 1-β-D-Ribofuranoside into 2'-O-Methyl Nucleoside Compounds of Ribonucleic Acid, Their Analogs, and Derivatives", Biochem., 1971, 10(19), 359					O-Methyl Nucleoside Components	
* Sambrook, J. et al., "Molec Laboratory Press, 1989.			lecular Cloning, A Laboratory Manual", Cold Spring Harbor			
	49	9 Shimizu, M. et al., "Effects of 5-Methyl Substitution in 2'-O-Methyl Oligo- (Pyrimidine) Nucleotides on Triple-Helix Formation," <i>Bioorg. Med. Chem. Letts.</i> , <b>1994</b> , 4(8), 1029-1032				
	50	Singer et al., "O <sup>2</sup> -Alkylog Reaction of Cytidine with			roduct of Neutral, Aqueous t., <b>1976</b> , <i>63(1)</i> , 85-88	
EXAMINER				DATE CONS	SIDERED	
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<sup>\*</sup> A copy of this reference will not be forwarded to the U.S. Patent and Trademark Office since it is believed to be too voluminous and easily obtainable by the Examiner.





Form P1	O-1449 Modified	Docket No. ISIS-5320	Application No. 10/699,240		
Cite	tent and Publications ad by Applicant al sheets if necessary)	Applicant Phillip Dan Cook, et	t al.		
	ertment of Commerce and Trademark Office	Filing Date October 31, 2003	Group Not Yet Assigned		
		Confirmation No. Not Yet Assigned			
ОТН	IER DOCUMENTS (In	cluding Author, Title, Da	ate, Pertinent Pages, Etc.)		
4	1 0	ation of Ribose in RNA Re n., 1976, 15(23), 5052-505	eacted with Ethylnitrosourea at		
4	Solomons, T.W., "O 432-433	organic Chemistry," John V	Wiley & Sons, New York, 1992, 5 <sup>th</sup> Ed.,		
4			Volologoribonucleotides: Synthesis and Applications in ", Nucleosides & Nucleotides, 1991, 10(1-3), 25-36		
		-	onthesis and anti-HIV activity of several 2'-fluoro-containing "J. Med. Chem., 1990, 33, 2150-2157		
	Tazawa et al., "A No Biochem., 1972, 11(	<u>-</u>	Procedure for the Synthesis of 2'-O-Alkyl Nucleotides", 4931-4937		
	Chem Reviews, 199		es: a new therapeutic principle,"		
	Verheyden et al., "Sy Org. Chem., 1971, 3		ne 2'-Amino-2'-deoxynucleosides", J.		
		l., "A Simple New Synthes nat. Edit. 1969, 12, 976-97	sis of 2-Thiopyrimidine Nucleosides", 77.		
	,	Strehlke, "Eine einfache S. Ber. 1973, 106, 3039-306	Synthese von 2-Thiopyrimidin-		
			Gene Inhibition by Oligonucleotides Containing C-5 ence, <b>04 June 1993</b> , Vol. 260, pgs. 1510-1513		
EXAMINER		DATE C	CONSIDERED		





Form PTO-1	449 Modified	Docket No. ISIS-5320	Application No. 10/699,240		
Cited by A	nd Publications Applicant eets if necessary)	Applicant Phillip Dan Cook, et al.			
U.S. Departmer Patent and Tra		Filing Date October 31, 2003	Group Not Yet Assigned		
		Confirmation No. Not Yet Assigned			
OTHER I	DOCUMENTS (Includ	ing Author, Title, Date,	Pertinent Pages, Etc.)		
1 1	Wagner et al., "Preparation Nucleosides", J. Org. Ch	•	f Some Organotin Derivatives of		
	Wagner et al., "A simple procedure for the preparation of protected 2'-O-met O-ethyl ribonucleosides-3'-O-phosphoramidites", Nucl. Acids Res., 1991, 196 5965-5971				
		roperties of 2'-Fluorothyn ction with Restriction End	nidine-Containing onuclease <i>Eco</i> RV," <i>Biochem.</i> ,		
N	0 '	•	ucleotides via Phosphoramidite ort", Tetrahedron Letters 1993,		
		of In Vitro Transcription les", Gene 1990, 89, 203-2	by Specific Double-Stranded 209.		
	Biol., 1974, 86, 843-853		ouble-stranded helices," J. Mol.		
b 3	peads for solid-phase oligibles 1821	gonucleotide synthesis," I	izaiton of controlled pore glass <i>Nucl. Acids Res.</i> , <b>1990</b> , <i>18</i> , 3813-		
	C.F. (Ed.), Raven Press,	New York, <b>1992</b> , 95-107	of Antisense RNA and DNA," Fox,		
1 1	Freier, S.M., et al., "Solv 1983, 22, 1107-1131	vent effects on the dynami	cs of (dG-dCO <sub>3</sub> ," <i>Biopolymers</i> ,		
s	70 Lesnik, E.A., et al., "Oligodeoxynucleotides containing 2'-O-modified adenosine: synthesis and effects on stability of DNA:RNA duplexes," <i>Biochemistry</i> , 1993, 32, 7832-7838				
EXAMINER		DATE CON	SIDERED		



Form PTO	Form PTO-1449 Modified			Application No. 10/699,240		
Cited b	List of Patent and Publications Cited by Applicant (Use several sheets if necessary)		Applicant Phillip Dan Cook, et al.			
	nent of Commerce Frademark Office	Filing Date October 31		Group Not Yet Assigned		
		Confirmati Not Yet A				
ОТНЕ	R DOCUMENTS (Includ	ling Author	, Title, Date, I	Pertinent Pages, Etc.)		
71	71 Monia, B.P., et al., "Selection antisense oligonucleotide:					
72	stability: thermodynamics of do			of double-helix formations with CCGG, CCGGp, GGUp, and ACCGGUp," <i>Biochemistry</i> , <b>1983</b> , <i>22</i> , 256-263		
73	Puglisi, J., et al., "Absor <b>1989</b> , <i>180</i> , 304-325	iglisi, J., et al., "Absorbance melting curves of RNA," Methods in Enzymology,				
74	thiouracil," Chem. Phari	<i>m. Bull.</i> , (To	kyo), <b>1970</b> , <i>18</i>			
75	99, 4219-4228	•	•	ment reactions," J.A.C.S., 1977,		
76	<b>1995</b> , <i>374</i> , 546-549			direct B-cell activation," Nature,		
77	Rottman, et al., "Influence of 2'-O-alkylation on the structure of single-stranded polynucleotides and the stability of 2'-O-alkylated polynucleotide complexes," <i>Biochem.</i> , <b>1974</b> , <i>13(13)</i> , 2762-2771					
* 78						
79	Commun. 1973, 38, 423-	-427		ogues, CLV," Coll. Czech. Chem.		
80	Townsend, L.B., "Chem <b>1988</b> , <i>Vol. 1</i> ,, 59-67	istry of nucl	eosides and nic	culeotides," Plenum Press, NY,		
EXAMINER			DATE CONS	SIDERED		

<sup>\*</sup> A copy of this reference will not be forwarded to the U.S. Patent and Trademark Office since it is believed to be too voluminous and easily obtainable by the Examiner.





Form l	PTO	-1449 Modified	Docket No. ISIS-5320	Application No. 10/699,240	
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		nent of Commerce Frademark Office	Filing Date October 31, 2003	Group Not Yet Assigned	
			Confirmation No. Not Yet Assigned		
OTHER DOCUMENTS (Include			ling Author, Title, Dat	e, Pertinent Pages, Etc.)	
	81	Walker, D-C., et al. (Eds applications, <i>Plenum Pro</i>		es – chemistry, biology, and medical	
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	.=				
EXAMINER		·	DATE CO	NSIDERED	

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For	Form PTO-1449 Modified				Docket No. Application No. 1SIS-5320 Application No. 10/699,240			
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					Filing Date Group October 31, 2003 Not Yet Assigned			
				Confirmation No. Not Yet Assigned				
		U.	S. PATENT	DOCUMENTS				
Examiner Initial		Document No.	Date	Name		Class	Subclass	
	82	3,687,808	08/29/72	Merigan et al.	, ,	195	28N	
	83	4,511,713	04/16/85	Miller et al.		536	27	
	84	5,013,830	05/07/91	Ohtsuka et al.		536	27	
	85	5,210,264	05/11/93	Yau		558	167	
W. 200-20	86	5,386,023	01/31/95	Sanghvi et al.		536	25.3	
	87	5,466,786	11/14/95	Buhr et al.		536	26.26	
	88	5,470,967	11/1995	Huie, et al.		536	24.3	
	89	5,606,049	02/25/97	Vaghefi		536	28.5	
	90	5,750,673	05/12/98	Martin		536	26.1	
	91	5,728,525	03/1998	Conrad		435	6	
	92	5,760,202	06/1998	Cook, et al.		536	22.1	
	93	5,792,847	08/11/98	Buhr, et al.		536	23.1	
	94	6,222,025	04/2001	Cook, et al.		536	23.1	
EXAMINER	<b>₹</b>			DATE CONSIDER	RED			



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List of Patent and Publications Cited by Applicant (Use several sheets if necessary)

U.S. Department of Commerce Patent and Trademark Office

Docket No. ISIS-5320

Application No. 10/699,240

Applicant

Phillip Dan Cook, et al.

Filing Date

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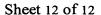
October 31, 2003

Not Yet Assigned

Confirmation No. Not Yet Assigned

# FOREIGN PATENT DOCUMENTS

Examiner					Trans	Translation	
Initial		Document No.	Date	Country	YES	NO	
	95	WO 91/15499	10/17/91	PCT			
	96	WO 92/05186	4/1992	PCT			
	97	WO 92/13869	08/20/92	PCT			
	98	WO 93/10820	10.06.93	PCT			
	99	WO 94/02499	03.02.94	PCT			
	100	WO 94/17094	04.08.94	PCT			
<del></del>	101	WO 95/20597	08/03/95	PCT			
	102	WO 95/35102	12/1995	PCT			
	103	4110085 A1	10/01/92	Germany			
	104	0 260 032 A3	03/16/88	EP			
	105	0 339 842 A2	11/02/89	EP			
	106	0 614 907 A1	09/14/94	ЕРО		777	
	107	0 629 633 A2	12/21/94	ЕРО			
	108	0 714 907 A1	06/05/96	ЕРО			
EXAMINER			DATE CONSIDER	RED			





Form	PT	<b>'O-</b> 1	449	Mo	dified
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List of Patent and Publications Cited by Applicant (Use several sheets if necessary)

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Applicant

Phillip Dan Cook, et al.

Filing Date

Group

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# **FOREIGN PATENT DOCUMENTS**

Examiner				Tran	Translation	
Initial	Document No.	Date	Country	YES	NO	
109	2-264792	10/29/90	Japan			
110	6-345791	12/20/94	Japan		X	
111	6-507883	09/08/94	Japan		X	
112	7-002889	01/06/95	Japan		X	
113	7-300493	11/14/95	Japan		X	
114	8-208686	08/13/96	Japan		x	
115	9-508134	08/19/97	Japan		x	
116	89-85456	04/1989	Japan			
EXAMINER			DATE CONSIDER			